

Histone H3-K9 Methylation Assay Kit

Cat. No. Kit-0458 Lot. No. (See product label)

SPECIFICATION

Product Overview

Histone H3-K9 Methylation Assay Kit is use for measuring methylation of histone H3-K9.

Description

Epigenetic activation or inactivation of genes plays a critical role in many important human diseases, especially in cancer. A major mechanism for epigenetic inactivation of the genes is methylation of CpG islands in genome DNA caused by DNA methyltransferases. Histone methyltransferases (HMTs) control or regulate DNA methylation through chromatin-dependent transcription repression or activation. HMTs transfer 1-3 methyl groups from S-adenosyl-L-methionine to the lysine and arginine residues of histone proteins. ESET, G9a, SUV39-h1, SUV39- h2, SETDB1, Dim-5 and Eu-HMTase are histone methyltransferases that catalyze methylation of histone H3 at lysine 9 (H3-K9) in mammalian cells. H3-K9 methylation mediates heterochromatin formation by forming a binding site for HP1 and also participates in silencing gene expression at euchromatic sites. Increased H3-K9 methylation is also found to be involved in some pathological processes such as cancer progress. There are only a couple of methods such as western blot used for measuring histone H3-K9 methylation. These methods available so far are time consuming and labor intensive, or have low throughput. The Histone H3-K9 Methylation Assay Kit addresses theses problems by using a unique procedure to measure methylation of histone H3-K9.

Applications

For specifically measuring histone H3-K9 methylation using a variety of mammalian cells including fresh and frozen tissues, cultured adherent and suspension cells.

Usage

For research use only (RUO)

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Storage

Upon receipt, store GC8 and the methylated H3-K9 control at -20°C . Store GC3, GC5, GC7, GC9 and 8-Well Assay Strips at 4°C away from light. Store all other components at room temperature. The kit is stable for 6 months when stored properly. Note: Check if wash buffer, GC3, contains salt precipitates before using. If so, warm (at room temperature or 37°C) and shake the buffer until the salts are re-dissolved.

Kit Components


GC1 (10X wash buffer) 10 ml GC2 (Extraction buffer) 16ml GC3 (10X wash buffer) 28 ml GC4 (Histone buffer) 1 ml GC5 (Blocking buffer) 20 ml GC6 (Antibody buffer) 12 ml GC7 (Capture antibody, $100\ \mu\text{g/ml}$)* 50 μl GC8 (Detection antibody, $400\ \mu\text{g/ml}$)* 20 μl GC9 (Developing solution) 10 ml GC10 (Stop solution) 6 ml Methylated H3-K9 control ($60\ \mu\text{g/ml}$)* 20 μl 8-Well Assay Strip (with frame) 12* For maximum recovery of the products, centrifuge the original vial after thawing prior to opening the cap.

Features & Benefits

Quick and efficient, which can be finished within 5 hours. Innovative colorimetric assay with no need for radioactivity, electrophoresis, and chromatography. Strip microplate format makes the assay flexible: manual or high throughput.

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